

<p align="center"><b>6 DIGITAL VIDEO RECOVERY</b></p>	<p align="center">Page Page 1 of 2</p>
<p align="center"><b>Division of Forensic Science</b></p> <p align="center"><b>PROCEDURES MANUAL: Forensic Imaging &amp; Audio Analysis</b></p>	<p align="center">Amendment Designator:</p>
	<p align="center">Effective Date: 22-March-2004</p>
<div data-bbox="711 302 985 333" data-label="Section-Header"> <p align="center"><b>6 Digital Video Analysis</b></p> </div> <div data-bbox="151 333 285 365" data-label="Section-Header"> <p><b>6.1 Purpose</b></p> </div> <div data-bbox="193 396 1544 485" data-label="Text"> <p>This document contains the procedures for the proper collection and preservation of Digital Video evidence. Making an image of the digital video recorders (DVR) hard drives or other related digital media, as well as any operating systems or encoding software necessary to access and process the video signals.</p> </div> <div data-bbox="151 516 483 548" data-label="Section-Header"> <p><b>6.2 Equipment and Materials</b></p> </div> <div data-bbox="193 579 940 611" data-label="Text"> <p>The following equipment and materials may be used but not limited to</p> </div> <div data-bbox="183 642 842 762" data-label="List-Group"> <ul style="list-style-type: none"> <li>6.2.1 Digital video recorders</li> <li>6.2.2 Computer hardware and software</li> <li>6.2.3 Various printers with appropriate output media</li> <li>6.2.4 Various media to maintain images and or video signals</li> </ul> </div> <div data-bbox="151 821 326 852" data-label="Section-Header"> <p><b>6.3 Procedures</b></p> </div> <div data-bbox="193 884 732 915" data-label="Text"> <p>6.3.1 All media will be write protected if possible.</p> </div> <div data-bbox="193 947 1544 1035" data-label="Text"> <p>6.3.2 The evidence will be imaged to a blank copy of the same media type. The original media should be properly labeled as the original (see section 20.5.6 of the Quality Manual). The imaged media will be marked and used for the analysis. The MD-5 hash values of both media will be recorded and maintained in the case file documentation.</p> </div> <div data-bbox="193 1066 1544 1188" data-label="Text"> <p>6.3.3 The video signals will be processed as necessary to maximize its quality. All processing methods will be documented in the order in which they were performed either in the case file documentation or within the processing systems software. The processing methods used will vary in sequence and intensity due to the quality of the original video signals and the examiners discretion.</p> </div> <div data-bbox="342 1188 1471 1251" data-label="Text"> <p>Note: The most typical operations conducted on images or video signals include, but are not limited to the following;</p> </div> <div data-bbox="534 1251 1005 1430" data-label="List-Group"> <ul style="list-style-type: none"> <li>6.3.3.1 Brightness and contrast adjustments</li> <li>6.3.3.2 Conversion to gray scale</li> <li>6.3.3.3 Histogram equalization</li> <li>6.3.3.4 Sharpening</li> <li>6.3.3.5 Frame Averaging</li> <li>6.3.3.6 Noise Reduction by various methods</li> </ul> </div> <div data-bbox="193 1461 1406 1493" data-label="Text"> <p>6.3.4 The results of the analysis will be saved under the appropriate file number to a lossless compression format.</p> </div> <div data-bbox="193 1524 1495 1619" data-label="Text"> <p>6.3.5 The results of the analyzed images will printed and if satisfactory, labeled and returned with the original submitted evidence. Analyzed video streams will be output to video tape and or other forms of digital media, i.e. compact disk (CD), digital video disk (DVD), or other media and returned with the original submitted evidence.</p> </div> <div data-bbox="151 1650 323 1682" data-label="Section-Header"> <p><b>6.4 Calibration</b></p> </div> <div data-bbox="193 1713 1438 1766" data-label="Text"> <p>Calibration procedures and scheduled maintenance for all equipment will be done in accordance with manufacturers' Recommendations and recorded in the maintenance log located in the appropriate laboratory.</p> </div> <div data-bbox="151 1797 334 1829" data-label="Section-Header"> <p><b>6.5 Calculations</b></p> </div> <div data-bbox="193 1860 972 1892" data-label="Text"> <p>Calculations will be determined by the type of evidence being examined.</p> </div>	

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<p><b>6.6 Limitations</b></p> <p>It must be recognized that the greatest limitation of the comparison process is the quality of the submitted evidence and the ability to resolve the individual characteristics that differentiate the item from other similar items.</p> <p><b>6.7 Safety</b></p> <p>Gloves should be worn to handle any potentially bio-hazardous evidence.</p> <p><b>6.8 References</b></p> <p>Owner's manuals and users manuals should be referenced for equipment and operating instructions.</p> <p style="text-align: right;">► End</p>	